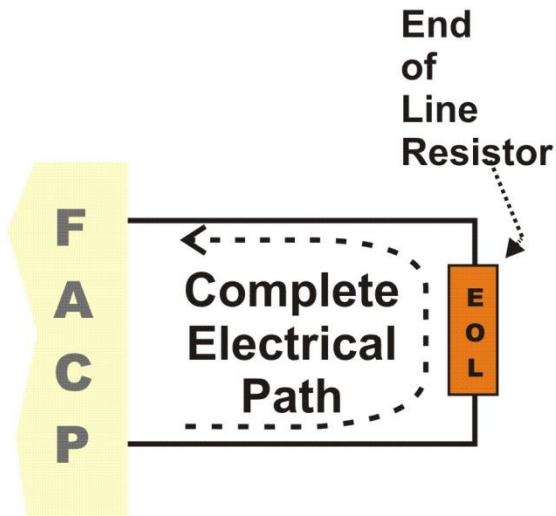


Fire Alarm Loop Electrical Path



For a conventional fire alarm system, supervision is testing continuity. The Fire Alarm Control Panel (FACP) is the continuity tester and the fire alarm loop of wire is the electrical path being tested.

The loop starts out at one of the Class B zone terminals of the fire alarm panel, goes through the end-of-line resistor, and returns to the other Class B zone terminal.

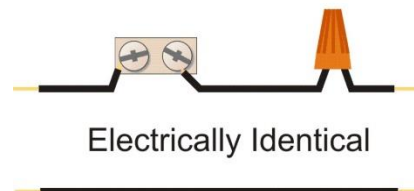
The panel uses voltage to push an electrical current through the complete electrical path of the loop. If the current stops, the continuity tester (FACP) displays a yellow trouble light and sounds a trouble buzzer.

With Class B wiring, as long as it's at the end of the loop, the end-of-line resistor can be anywhere in the building.

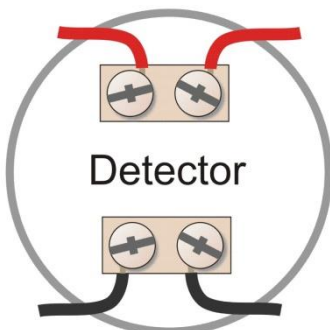
Splices and Junctions

Keep in mind that the wire, at least mechanically speaking, has junctions and splices. To the electrons traveling through the wire, though, the wire is continuous.

With supervision, as long as the electrons continue to pass through the loop, splices and junctions don't count.



Wiring Supervision



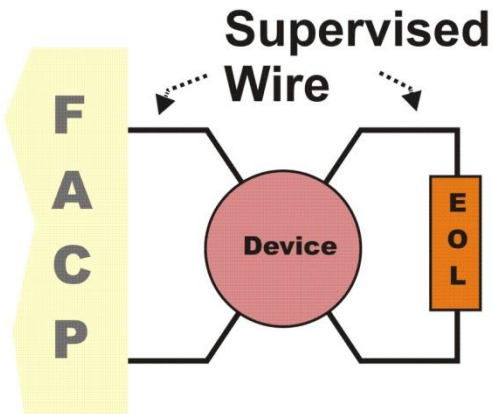
Remember, the whole purpose of wiring supervision is to make sure the devices are connected to the panel.

If a smoke detector or fire horn is removed or the wiring is broken somewhere in the building, the path is broken and no longer passes current. Supervision says to the panel, there's a problem with the wiring; interpretation --- devices aren't connected.

Make It Work - Conventional Fire Alarms

Class B Supervision

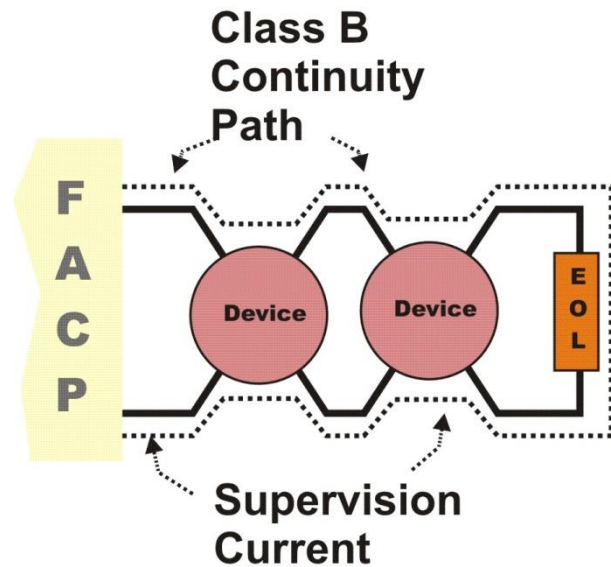
The idea of Class B is to find out there's a problem, and then in a timely manner, get the problem fixed.



Supervised wire is connected so that all continuity checking current goes in and out of the terminals of each device. If any device is disconnected, the continuity is interrupted and supervision says there's trouble.

Like beads on a necklace, all devices are daisy-chained with the end-of-line resistor as the last device.

By wiring the loop this way, the supervision current is forced through every wire. The current can then check continuity of all the wires and also check the input terminals of each device.



More information can be found at:

<http://www.douglaskrantz.com/BlogLoopSupervision.html>